CLAIMS

1. Multiple delay line based on AWG and different sections of an dispersive optical medium, characterized in that by means of the use of simultaneous separated multiple wavelengths (WDM) the FSR of the AWG is capable of introducing a different delay for each optical carrier, the delays being obtained due to the dispersion of the sections of the dispersive optical medium of the feedbacks, and because the obtaining of one or another set of delays is optically performed by means of the choice of a specific subset of wavelengths.

2. Multiple delay line based on AWG according to claim 1, characterized in that the dispersive optical medium consists of sections of dispersive optical fibre, diffraction networks or any other dispersive medium both in transmission and in reflection.

3. Multiple delay line based on AWG according to any of the precedent claims, characterized in that the feedback configuration between the input and output ports of the AWG is any type of loop-back configuration, both those that connect a output port with its symmetrical input one, and those that connect the input and output ports in any other way.

4. Multiple delay line based on AWG according to any one of the claims 1 and 2, characterized in that the feedback configuration between the input and output ports of the AWG is any type of fold-back configuration, in which the output ports of the AWG connect with each other and even with themselves.

5. Multiple delay line based on AWG according to any of the precedent claims, characterized in that the wavelengths have a separation between them that is not the FSR of the AWG but rather multiples of this.

6. Multiple delay line based on AWG according to precedent claims,

characterized in that a finite number of wavelengths groups are simultaneously introduced, so that the wavelengths of each group are FSR separated from each other, but not in this way from the wavelengths of other groups.